DHV TESTREPORT EN 926-2:2013+A1:2021

UP TRANGO X S

Type designation UP Trango X S Type test reference no DHV GS-01-2762-23 Holder of certification UP International GmbH Manufacturer UP International GmbH **Classification** C Winch towing Yes Number of seats min / max 1/1Accelerator Yes Trimmers No BEHAVIOUR AT MIN WEIGHT IN FLIGHT (65KG)

Test pilots



Expert Harald Buntz



BEHAVIOUR AT MAX WEIGHT IN FLIGHT (85KG)



	No release	No release
Inflation/take-off	c	В
Rising behaviour	r Easy rising, some pilot correction is required	Easy rising, some pilot correction is required
Special take off technique required	Yes	No
Landing	A	A
Special landing technique required	No	No
Speeds in straight flight	A	A
Trim speed more than 30 km/h	Yes	Yes
Speed range using the controls larger than 10 km/h	Yes	Yes
Minimum speed	Less than 25 km/h	Less than 25 km/h
Control movement	c	c
Symmetric control pressure	Increasing	Increasing
Symmetric control trave	-	45 cm to 60 cm
Pitch stability exiting accelerated flight	Α	Α
Dive forward angle on exit	t Dive forward less than 30°	Dive forward less than 30°
Collapse occurs	s No	No
Pitch stability operating controls during accelerated flight	A	A
Collapse occurs	s No	No
Roll stability and damping	A	A
Oscillations	Reducing	Reducing
Stability in gentle spirals	A	A
Tendency to return to straight flight	t Spontaneous exit	Spontaneous exit
Behaviour exiting a fully developed spiral dive	В	В
Initial response of glider (first 180°)	en : keine unmittelbare Reaktion	en : keine unmittelbare Reaktion
	t Spontaneous exit (g force decreasing, rate of	Spontaneous exit (g force decreasing,
· · · · · · · · · · · · · · · · · · ·	turn decreasing)	rate of turn decreasing)
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
Symmetric front collapse	A	A
Entry	 Rocking back less than 45° 	Rocking back less than 45°



Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
5	Entering a turn of less than 90°	Keeping course
Cascade occurs Folding lines used		No no
Folding mes used		10
<u>Unaccelerated collapse (at least 50 % chord)</u>	В	В
-	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s Dive forward 30° to 60°
Dive forward angle on exit	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs	-	No
Folding lines used		no
Accelerated collapse (at least 50 % chord)	B	В
<u>.</u>	Rocking back less than 45°	Rocking back less than 45°
-	s Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 30° to 60°
_	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs	No	No
Folding lines used	no	no
Exiting deep stall (parachutal stall)	в	в
Deep stall achieved	Yes	Yes
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 30° to 60°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	No	No
High angle of attack recovery	A	Α
Recovery	⁷ Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	•	No
Recovery from a developed full stall	c	в
Dive forward angle on exit		Dive forward 30° to 60°
	No collapse	No collapse
Cascade occurs (other than collapses)	No	No
Rocking back	Greater than 45°	Less than 45°
Line tension	Most lines tight	Most lines tight
Small asymmetric collapse	A	В
Change of course until re-inflation	Less than 90°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs		No
Cascade occurs	No	No
Folding lines used	no	no
Large asymmetric collapse	c	c
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 45° to 60°
_	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		Less than 360°
-	No (or only a small number of collapsed cells	No (or only a small number of collapsed
Twist occurs	with a spontaneous re inflation) No	cells with a spontaneous re inflation) No
Cascade occurs	No	No
Folding lines used	no	no
Small asymmetric collapse accelerated	A	в
Change of course until re-inflation	Less than 90°	90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
-	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	•	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells	No (or only a small number of collapsed
	with a spontaneous re inflation)	cells with a spontaneous re inflation)

Twist occurs		No
Cascade occurs		No
Folding lines used	110	no
Large asymmetric collapse accelerated	c	c
Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 45° to 60°	Dive or roll angle 45° to 60°
Re-inflation behaviour	r Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	no	no
Directional control with a maintained asymmetric collapse	A	A
		Voc
Able to keep course 180° turn away from the collapsed side possible ir		Yes Yes
10 star away nom the conapsed side possible in		165
Amount of control range between turn and stall or spir	r More than 50 % of the symmetric control n travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	- No	No
Spin occurs		
Low speed spin tendency	Α	Α
Spin occurs	s No	No
Recovery from a developed spin	A	A
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs		No
B-line stall	c	A
Change of course before release		Changing course less than 45°
	Remains stable without straight span	Remains stable with straight span Spontaneous in less than 3 s
Dive forward angle on exit	Spontaneous in less than 3 s	Dive forward 0° to 30°
Cascade occurs		No
<u>Big ears</u>	A	A
Entry procedure	Standard technique	Standard technique
Behaviour during big ears		Stable flight
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	•	Dive forward 0° to 30°
Ris open in perclamated flight	i.	
Big ears in accelerated flight	;A	¦A
	Standard technique	Standard technique
Behaviour during big ears	-	Stable flight
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
Behaviour immediately after releasing the accelerator while maintaining big ears		Stable flight
Alternative means of directional control	A	
Alternative means of directional control		A
180° turn achievable in 20 s		Yes
Stall or spin occurs	s No	No
Any other flight procedure and/or configuratio	on described in the user's manual	
No other flight procedure or configuration described in the	m weser bed in the user's manual	

No other flight procedure or configuration described in the user's manual

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Folding lines used	no	no
Unaccelerated collapse (at least 50 % chord)	В	В
Recovery Dive forward angle on exit	Rocking back less than 45° Spontaneous in less than 3 s Dive forward 30° to 60° Entering a turn of less than 90°	Rocking back less than 45° Spontaneous in less than 3 s Dive forward 30° to 60° Entering a turn of less than 90°
Cascade occurs	No	No
Folding lines used	no	no
Accelerated collapse (at least 50 % chord)	B	B
-	Rocking back less than 45° Spontaneous in 3 s to 5 s	Rocking back less than 45° Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 30° to 60° Entering a turn of less than 90°	Dive forward 30° to 60° Entering a turn of less than 90°
Cascade occurs	5	No
Folding lines used	no	no
Exiting deep stall (parachutal stall)	в	В
Deep stall achieved Recovery	Yes Spontaneous in less than 3 s	Yes Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 30° to 60°
Change of course Cascade occurs	Changing course less than 45° No	Changing course less than 45° No
High angle of attack recovery	A	A
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No
Recovery from a developed full stall	c	В
Dive forward angle on exit Collapse	Dive forward 30° to 60° No collapse	Dive forward 30° to 60° No collapse
Cascade occurs (other than collapses)	No	No
_	Greater than 45° Most lines tight	Less than 45° Most lines tight
Small asymmetric collapse	A	В
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course Collapse on the opposite side occurs	Eless than 360° No (or only a small number of collapsed cells	Less than 360° No (or only a small number of collapsed
Twist occurs	with a spontaneous re inflation) No	cells with a spontaneous re inflation) No
Cascade occurs		No
Folding lines used		no
Large asymmetric collapse	¦C	¦C
Change of course until re-inflation		90° to 180° Dive or roll angle 45% to 60%
Maximum dive forward or roll angle Re-inflation behaviour	Spontaneous re-inflation	Dive or roll angle 45° to 60° Spontaneous re-inflation
Total change of course	•	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells	No (or only a small number of collapsed
Twist occurs	with a spontaneous re inflation) No	cells with a spontaneous re inflation) No
Cascade occurs		No
Folding lines used	no	no
Small asymmetric collapse accelerated	Α	В
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle Re-inflation behaviour	Dive or roll angle 15° to 45° Spontaneous re-inflation	Dive or roll angle 15° to 45° Spontaneous re-inflation
Total change of course		Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs		No
Cascade occurs		No
Folding lines used		no
Large asymmetric collapse accelerated Change of course until re-inflation	C	C 90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 45° to 60° Spontaneous re-inflation
Total change of course Collapse on the opposite side occurs	Less than 360° No (or only a small number of collapsed cells	Less than 360° No (or only a small number of collapsed
	with a spontaneous re inflation)	cells with a spontaneous re inflation)
Twist occurs Cascade occurs		No
Folding lines used		no
Directional control with a maintained asymmetric collapse	A	A
Able to keep course	Yes	Yes

180° turn away from the collapsed side possible in	Yes	Yes
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	No	No
Low speed spin tendency	A	A
Spin occurs	No	No
Recovery from a developed spin	A	A
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs	No	No
B-line stall	c	A
Change of course before release	Changing course more than 45°	Changing course less than 45°
-	Remains stable without straight span	Remains stable with straight span
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	-	Dive forward 0° to 30°
Cascade occurs		No
<u>Big ears</u>	Α	Α
Entry procedure	Standard technique	Standard technique
Behaviour during big ears		Stable flight
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Big ears in accelerated flight	Α	Α
Entry procedure	Standard technique	Standard technique
Behaviour during big ears		Stable flight
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	•	Dive forward 0° to 30°
Behaviour immediately after releasing the		Stable flight
accelerator while maintaining big ears		
Alternative means of directional control	Α	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	Ne	No
	NU	110
Any other flight procedure and/or configuratio		

No other flight procedure or configuration described in the user's manual